DEAVER (J. B.)

FURTHER OBSERVATIONS UPON THE ETIOLOGY, DIAGNOSIS, AND TREATMENT OF ACUTE AND CHRONIC APPENDICITIS;

WITH THE REPORT OF SIXTY-ONE CHRONIC CASES OPERATED UPON, WITH ONE DEATH.

BY

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Read before the College of Physicians of Philadelphia, November 7, 1894.

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Since the publication of my last papers on appendicitis, which appeared in *The Medical News* of May 19, May 26, and June 16, my further experience has more than convinced me that the views then expressed have been borne out by the results attained by the measures then advocated. Further, I am prepared to express myself more strongly than ever in favor of early operation in acute primary attacks of appendicitis, and of operation in all cases of chronic appendicitis, including under this heading the sub-acute, the relapsing, and the recurrent varieties.

As regards etiology, I would emphasize the views I have already expressed regarding the importance of foreign bodies as a factor in the causation of a large proportion of acute and of a smaller number of chronic cases. In the great majority of the latter the condition found is that of a chronic catarrhal inflammation, while the bulk of acute cases are due largely to foreign bodies, *i. e.*, fecal concretions and extraneous substances. I have only seen two cases in which real foreign bodies were not found. In one, an acute case, the appendix contained a

large number of strawberry seeds; in the other, a chronic case, the appendix had contained a date-seed which had escaped at the point of ulceration. It was found above the tip of the appendix, which pointed north and lay behind the colon.

I believe that all cases of appendicitis begin as a catarrhal inflammation, in which the bacterium coli commune plays an important causative rôle. After this inflamed condition of the appendix has been established, the future outcome of the case, pathologically, very frequently depends upon the presence of a fecal concretion or foreign bodies and bacteria of suppuration other than the bacterium coli commune. No definite rule can be laid down, because there are cases that illustrate both conditions. It has been my experience that in acute perforative, and frequently in non-perforative, cases fecal concretions were found to exist either within the organ or in its immediate neighborhood.

I have already made the statement that the diagnosis of appendicitis is not difficult in the vast majority of cases. I am now more than ever convinced of the truth of this statement and of the importance it bears to successful treatment. The history of the case and the localized signs that centre around that most valuable landmark known as McBurney's point are always sufficient to establish the diagnosis either directly or by exclusion. The acute cases that go on to suppuration, and in which there is the greatest tendency for the pus to become circumscribed, are those in which the appendix points toward the northern end of the appendiceal compass and lies between the layers of the mesocolon.

The palpation of the appendix in chronic cases is a valuable and reliable means of diagnosis. Of course, in those cases in which the organ lies behind the cæcum the method is less valuable, although it is even then of service, because when the cæcum is distended the condition is due to flatus and not to feces. This has been my experience in sixty-one chronic cases upon which I have operated, to say nothing of a much greater number of acute cases. I have been able to diagnosticate and demonstrate by operation a thickened appendix, giving its

direction and location and its depth from the anterior wall of the abdomen. Women are better subjects, but the method is applicable to men, especially if they have been the victims of repeated attacks of appendicitis. In chronic cases I have noted that upon palpation over the base of the appendix the pain is referred in a direction corresponding to the long axis of the organ, *i. e.*, when the pain is referred to the liver the appendix points north, and so on, corresponding to the different positions that the appendix holds.

The difficulty attending the differential diagnosis between chronic appendicitis and incipient psoas-abscess, that is before the pus has passed any distance down the psoas-sheath, I have had forcibly brought to my mind recently in two cases. The chief points in favor of a forming psoas-abscess are the appearance of the patient, usually that suggestive of tuberculosis, the information to be obtained by an examination of the spine, a complete temperature-record, and a tendency to flexion of the thigh of the affected side. While the last-mentioned sign may be and is present in some cases of chronic appendicitis, it is a far more frequent accompaniment of psoas-abscess. Palpation will, in the great bulk of cases of chronic appendicitis, determine the presence of a diseased appendix, while deep pressure over the right iliac fossa will in case of psoas-abscess, although revealing tenderness, fail to disclose the presence of either a diseased appendix or the characteristic rigidity of the flat muscles of the abdominal walls.

I at once operate. The three cases that follow will illustrate my statement and prove my theory to be sound, and the procedure a life-saving measure.

CASE I.—On the evening of June 26, 1894, I was called to see Dr. J. H. B., aged forty-five, one of our leading practitioners. I found him suffering with acute abdominal pain, most intense in the right iliac fossa, the character of which I recognized as that of appendicular colic. He gave a history of chronic intestinal dyspepsia extending back for a period of years, also a vague history of having suffered in the past from a slight attack of appendicitis. Three days prior to my visit he had suffered from an acute attack of indigestion, the result of indiscretion in diet, which had been somewhat relieved by active purgation. The day of my visit he had had several bowel-movements, yet the pain in the right iliac fossa, which was paroxysmal, was increasing in intensity, notwithstanding the fact that he had taken, upon his own responsibility, one-fourth of a grain of morphine. Physical examination of the abdomen convinced me that the man was suffering from an acute, progressive attack of appendicitis. I advised immediate operation, and at 8 o'clock the following morning I removed the acutely inflamed appendix, the mesenteric attachment of which was gangrenous in its distal half. Recovery was uninterrupted.

CASE II.—Dr. J. C. R., aged twenty-two years, resident physician in the German Hospital, while on duty was taken sick on the evening of August 30, 1894, with severe general abdominal pain, soon becoming localized in the right iliac fossa. Under active purgation he was somewhat relieved, but the appendicular pain persisted. On the evening of the 31st I was asked to see the patient by Dr. Frese, the chief resident physician of the hospital, who informed me that in his judgment the doctor was not so well, and he feared the case was progressing unfavorably. I confirmed Dr. Frese's diagnosis of acute appendicitis and advised immediate operation.

The operation was done at 8 P.M. The appendix occupied the southwest

tained a considerable amount of pus. The surrounding tissues were covered with inflammatory lymph. Recovery was uninterrupted.

In this connection it is interesting to note that this was the third member of the family upon whom I had operated for appendicitis.

CASE IV.—I recently saw in consultation a young lady with appendicitis in whom the symptoms had not yielded to purgation; the appendix was so palpable that it was believed to lie in contact with the anterior parietal peritoneum. Operation was advised. The appendix was found acutely inflamed and in contact with the anterior parietal peritoneum. Recovery was uninterrupted.

I report the following two cases of acute appendicitis to illustrate the frightful rapidity with which such cases may go from bad to worse if not operated upon very early. The only possible hope of recovery in such cases lies in immediate operation. These are the cases that do not show decided improvement with marked amelioration of all symptoms, especially of tenderness, after the administration of purgatives.

CASE I.—Mr. R., aged twenty-eight years, was attacked fifty hours before operation. The symptoms grew steadily worse in spite of all medication. When the belly-cavity was opened pus welled up in the wound in quantities. The appendix, which pointed northeast, was gangrenous and had separated from its attachment to the cæcum, which also was gangrenous, leaving a large hole in the latter, through which fecal matter was escaping. The opening in the cæcum was closed with difficulty. The peritoneal cavity was carefully and thoroughly washed out and drained with glass tube and gauze. The patient died on the third day following the operation.

At the post-mortem examination the external wound was found in good condition, and the glass and gauze-drainage still in position. The omentum was congested and infiltrated, presenting the appearance of a cock's comb, and was adherent to the lower end of the cæcum around the drainage-tube. All the tissues in the right iliac fossa were in a semi-gangrenous state. The cæcum around the opening found at the operation was gangrenous; the stitches, however, were still in position. To the inner side of the row of sutures the bowel was perforated, allowing the escape of feces and pus. The general peritoneal cavity was infected, but contained very little pus; there was no pus in the pelvis. The intestines were covered with lymph. The cause of death was septic peritonitis.

CASE II.—Mr. K., aged twenty-three, was attacked May 23d with severe abdominal pain, referred to the epigastrium, and soon becoming localized in the right iliac fossa. Tenderness was marked and persistent, and on the 25th was intense, accompanied by exaggeration of all the symptoms, local

distention, vomiting, and constipation. Operation was undertaken on May 28th. When the peritoneum was opened a considerable quantity of pus escaped. The cæcum was distended with gas, and the small intestines were injected, but not paralyzed or distended. The appendix, which occupied the northeast position, was brought into view and tied off. The meso-appendix was short, and was attached to the basal half of the organ; perforation had taken place at about the middle third; the appendix beyond was gangrenous. There were no adhesions, and apparently no attempt upon the part of nature to close off the general peritoneal cavity. The pus cavity was thoroughly washed out, but upon placing glass-drainage in the pelvis fully a pint more of pus escaped. The patient made a rapid and safe recovery.

The amount of pus, especially that in the pelvis, and the absence of any apparent attempt upon the part of nature to protect the general peritoneal cavity, and the recovery of the patient, point conclusively to the fact that with proper technique the general peritoneal cavity under these circumstances can be protected against infection, and the case brought to a successful issue.

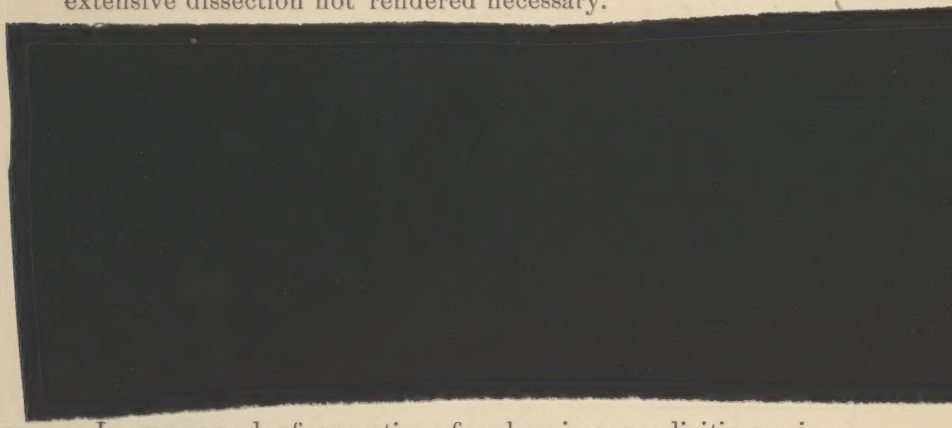
In connection with this paper I report 61 cases of operation for chronic appendicitis, with one death. The fatal case was the following:

B. K., a female, aged twenty-two, born in Ireland, was admitted to St. Agnes' Hospital, September 19, 1894, with a history of four previous attacks of appendicitis. At the time of admission to the hospital she complained of pain in the right iliac fossa. The tenderness in this region was so great upon slight pressure as to preclude a thorough examination. The greatest tenderness was at the McBurney point. Immediately beneath the right semi-lunar line and within the abdomen a large mass was felt. The patient suffered from retention of urine, requiring catheterization.

Upon opening the peritoneal cavity an immense mass came into view, composed of the small and large intestine and omentum, bound firmly together by dense adhesions. The omentum was ligated in sections and cut away. The adhesions were carefully broken up, exposing the cæcum imbedded with the appendix in an inflammatory mass. After a tedious dissection the cæcum and appendix were freed, and the latter ligated and removed.

I beg to call attention particularly to this case on account, first, of the number of attacks; second, the condition found at the time of operation; and, third, the result. Had the

patient been operated upon early in or after the primary attack, the result would doubtless have been different. If the appendix had been removed at this time, the inflammatory mass found in the right iliac fossa would not have been present, and such an extensive dissection not rendered necessary.



In my record of operations for chronic appendicitis are included three cases in which was present chronic diarrhœa with mucous stools, and in one also blood. In two of these cases the diarrhœa, along with other evidences of intestinal disturbance, disappeared six months after operation. In the third case, operated upon five months ago, while there is still diarrhœa, it is improving. This case is of special significance from the fact that, although the patient had received most exhaustive and prolonged treatment, both internal and local, at the hands of expert medical men, yet the diarrhœa proved rebellious. I believe this case will, as have the others, entirely recover.

In closing, I wish to emphasize the important deductions that have forced themselves upon me. The first and most important of all is the necessity of early operation for those cases of acute appendicitis, whether in the initial attack or in an acute attack supervening upon a chronic appendicitis not immediately yielding to judicious purgation. The ravages of this affection are so rapid and so fatal that I can hardly express myself too strongly upon this point. I hear so often from medical men and the more conservative surgeons that appendicitis is amen-

Name.	Age.	Sex.	Date.	Number of attacks.	Condition of bowels.	Position of appendix.	Pus.	Adhesions.	
			1890						.
D. R.	34	M.	July 20	2	Constipated	S. W.	Yes	Yes	ff.
			1891						
A. B.	9	F.	Sept. 12	1	"	N.	"	"	grenous.
F. F.	28	M.	1892	1	Normal	N.	"	"	ff.
			1893						
L. F.	30	M.	April 11	1	.....	N. E.	"	"	"
W. I.	35	M.	May 3	1	Constipated	N.	No	Slight	ous coats greatly
R. S. B.	25	M.	May	2	.....	S. E.	"	"	
Mrs. K.	25	F.	May	1	....	S.	Yes	"	since acute attack;
				7 yr's ago					eeks prior to oper- x.
C. N.	39	M.	Aug. 14	4	Diarrhea	S.	No	Firm	down by adhesions.
E. B. P.	50	M.	Aug. 19	5	"	N. E.	Yes	"	nt collection in ap-
Mrs. B.	30	F.	Dec. 29	1	Constipated	S. W.	No	Numerous	
			1894						
T. W.	28	F.	Jan.	2	Diarrhea	S. W.	"	Slight	
A. M.	17	F.	Jan. 2	1	Normal	N.	"	No	
I. R.	21	F.	Jan. 20	1	Constipated	S.	"	Slight	
L. V.	49	F.	Jan. 30	3	Diarrhea	S.	"	Firm	down.
M. C.	23	F.	Feb. 8	1	.....	S. E.	Yes	Slight	
C. F. Z.	23	M.	Feb. 8	2	Constipated	S. E.	"	Firm	.
J. McC.	19	M.	March	3	.....	N.	"	"	, gangrenous.
S. F.	30	M.	March	4	.....	N. W.	No	"	ounding appendix.
M. S.	60	F.	March	1	.....	S. W.	"	Numerous	

M. L.	65	M.	March	1	Constipated	S. E.	Yes	Firm	"	"	"	Short " "
J. T. B.	34	F.	April	1	Diarrhea	S. W.	No	"	"	"	"	Appendix tied down.
R. D.	18	M.	April 3	3	"	N. W.	Yes	"	Tied off.		"	Sinus in right lumbar region leading to orifice in appendix.
H. E.W.	26	M.	April 4	4	"	N. E.	"	"	Circular amputation, stump invaginated.		"	Tip adherent to cecum, ulceration at point of contact; stump with margin of cecal ulcer invaginated.
L. W. G.	31	M.	April 7	1	Constipated	N.	Yes	"	"	"	"	Appendix enveloped in wall of omentum.
E. B.	27	F.	April 17	3	Diarrhea	S. W.	No	No	"	"	"	Appendix very long.
L. P. B.	38	M.	April 18	1	.....	N. W.	Yes	Firm	"	"	"	Appendix twisted and gangrenous.
H. G.	58	M.	April 21	3	.....	S.	"	No	"	"	"	Abscess-cavity walled off.
H. O.	35	F.	April 29	2	Constipated	S. E.	No	Numerous	"	"	"	Appendix enlarged.
L. C.	53	F.	April 30	1	Diarrhea	N.	"	Slight	"	"	"	Walls infiltrated.
E. T.	14	M.	May 3	1	Constipated	S.	"	Firm	"	"	"	Appendix adherent to mesentery; during acute attack passed cast of appendix.
G. G.	50	M.	May 16	10	"	N. E.	"	Yes	"	"	"	
S. C.	22	F.	June 4	2	Diarrhea	E.	"	"	"	"	"	Pain referred to left side, subjective symptoms in right iliac fossa; tip of appendix attached to peritoneum to left of median line.
H. P.	37	F.	May 24	5	"	N. E.	"	"	"	"	"	
Mrs. B.	34	F.	May	1	Constipated	S.	Yes	No	Tied off.		"	Long meso appendix; appendix contained pus.
M. E.	25	F.	May	1	"	S. W.	No	"	Circular amputation, stump invaginated.		"	Appendix thickened at distal end.
R. C. Y.	26	M.	June 7	3	"	S. E.	"	Yes	"	"	"	Tuberculous.
R. S.	19	M.	June 12	1	Diarrhea	S. E.	"	No	"	"	"	Appendix had sloughed.
McI.	30	M.	June 10	1	Constipated	N. E.	Yes	Yes	Tied off.		"	
J. M.	26	M.	June 16	4	"	N.	No	No	Circular amputation, stump invaginated.		"	
J. McF.	27	M.	June 25	9	"	S.	"	Many	"	"	"	First attack fourteen years ago; suffered since with entero colitis; disappeared since operation.
J. H. B.	45	M.	June 27	1	"	N. W.	"	No	"	"	"	Meso-appendix gangrenous.
R. M.	30	M.	June 28	3	"	S. E.	Yes	Yes	Tied off.		"	Omentum gangrenous, tied off and removed.

Name.	Age.	Sex.	Date.	Number of attacks.	Condition of bowels.	Position of appendix.	Pus.	Adhesions.	Manner of treating stump.	Result.	Remarks.
			1894								
E. C.	21	M.	June 26	1	Normal	N.	No	Yes	Tied off.	Rec.	
J. D.	17	F.	July 3	1	Constipated	...	Yes	"	.....	"	
E. C.	26	F.	July 11	2	"	S.	"	No	Tied off.	"	
C. S. B.	22	M.	Aug. 5	7	Normal	N.	No	Yes	Circular amputation, stump invaginated.	"	Appendix much twisted; post-cecal.
M. G.	12	F.	Aug. 9	2	Constipated	N.	Yes	"	" "	"	
H. E.	34	M.	Aug. 10	1	"	S. W.	No	"	" "	"	
H. S.	27	M.	Aug. 26	1	Normal	N.	Yes	"	Tied off.	"	Appendix had sloughed from cecum; stump invaginated.
W. S.	18	M.	Aug. 27	2	Constipated	S. W.	No	No	Circular amputation, stump invaginated.	"	
Mrs. W.	24	F.	Aug. 28	2	"	N.	Yes	Yes	Tied off.	"	Invaginated.
Mrs. F.	32	F.	Sept. 4	2	"	S. E.	No	"	Circular amputation, stump invaginated.	"	Appendix long, clubbed at end.
C. W.	22	F.	Sept. 12	6	"	S.	"	No	" "	"	Thickened appendix.
B. McK.	22	F.	Sept. 26	4	"	S.	"	Yes	" "	Died	Adhesions very dense; appendix surrounded by inflammatory lymph; patient died of peritonitis.
J. N.	24	F.	Oct. 3	4	"	S.	"	"	" "	Rec.	Fecal concretion at tip.
J. A.	30	M.	Oct. 6	16	"	S.	"	"	" "	"	Appendix short.
F. N.	22	M.	Oct. 11	numerous	"	S.	"	No	" "	"	Repeated attacks for two years; appendix very long.
N. M.	28	M.	Oct. 17	7	"	S.	"	Yes	" "	"	Appendix completely twisted on itself; free bleeding during operation; glass and gauze drainage.
J. R.	43	M.	Oct. 18	3	"	S. E.	Yes	No	" "	"	
L. F.	23	M.	Oct. 23	3	"	S. W.	No	"	" "	"	
.....	30	M.	Oct. 24	2	"	S. E.	Yes	Yes	Tied off.	"	

able to medicinal measures, yet when they call in the consulting surgeon for those of their cases which do not improve, how often are they found beyond surgical aid? How often are we called in at the last moment to see supposed cases of obstruction of the bowels or idiopathic (?) peritonitis, only to find the patient moribund, with cold, blue extremities, in fact profoundly septic, the victim of a perforative appendicitis! I could cite instance after instance in which patients have died of inflammation of bowels, peritonitis, obstruction of the bowels, and in one instance of "heart-failure," only to discover at the autopsy a gangrenous and perforated appendix with a belly full of stinking pus. In looking over the weekly mortality-reports of the Philadelphia Board of Health I have often been struck with the fact that appendicitis does not figure as a cause of death. If autopsies were made in the cases in which death is recorded as due to "peritonitis," "inflammation and obstruction of the bowels," etc., I am certain that appendicitis would be found the primary cause of death in a large majority of cases so reported. The honest physician or surgeon who is open to conviction cannot but be convinced of the truth of my statements. One attack of appendicitis is almost sure to be followed by others. Each and every subsequent attack lessens the patient's chances for ultimate recovery —and why? Inflammation of the peritoneum leaves adhesions and inflammatory lymph; leaves an appendix the subject of chronic catarrhal inflammation which forms a fruitful soil for the development of bacterial life. Such an appendix is, in my opinion, the starting-point for a large percentage of the chronic intestinal troubles so commonly seen.

In view of these deductions, and the fact that the mortality of the operation for chronic appendicitis is practically *nil*, I must say that the safest and most logical procedure is operation. The golden opportunity is in the primary attack as soon as the diagnosis is established, thus eliminating the possibility of perforation, gangrene, pus and general peritonitis. Should this opportunity be lost, and the patient recover from the attack, I strongly advise the removal of the appendix as soon as possible.

By asepsis and careful technique the operation can be done with but little risk to life, as has been proved by such men as McBurney, Richardson, Bull, Fowler, and others. In further support of this I herewith tabulate sixty-one cases of operation for chronic appendicitis, with one death.

DISCUSSION.

Dr. Charles McBurney, of New York: Mr. President and Gentlemen: It gives me great pleasure to be here, and I thank you and Dr. Deaver for the privilege of being allowed to take part in the discussion of the subject of his valuable paper—a subject in regard to which so much of the valuable work that has been done has been in Philadelphia. If my remarks are a little disjointed I hope that you will excuse me, for before Dr. Deaver finished his paper I not only felt quite an uncomfortable sensation in my right side, but I also noticed that a number of the gentlemen about me were palpating their right iliac fossæ. This has a little disturbed the continuity of my thoughts.

I agree so thoroughly with Dr. Deaver in his conclusions that it is perhaps a little unfortunate, as far as the interest of the discussion is concerned, because I cannot conscientiously attack him upon any of the conclusions that he has advanced. If I am to talk to you upon the subject I should like to follow somewhat the same line that Dr. Deaver has taken. I think that it was very well said by Richardson, of Boston, in the last paper he wrote on this subject, that acute appendicitis is the most important acute abdominal disease that is now before the scientific world. This observation to those who have seen a great deal, and are now seeing a great deal, of appendicitis seems a little trite. At the same time it is a statement that is well worth spreading throughout the professional world, especially among those who are scattered in the small places, where the number of cases of any one disease is small, and where a practitioner may have a considerable practice and yet in years not see, or not recognize, a single case of appendicitis. The practitioners of medicine are the ones who need to have impressed upon them forcibly the fact that this is the most important of the acute abdominal diseases. In the larger cities the matter is constantly being brought before the profession, and there are comparatively few medical men who are not more or less familiar with it. I look upon acute appendicitis as "the most important acute abdominal disease which is now before the scientific world," for various reasons. In the first place, on account of its great frequency; in the second place, on account of its great fatality; in the third place, on account of the situation of the lesion; in the fourth place, on account of the extraordi-

nary multiplicity of its pathological processes; and, lastly, on account of the very great range and variety of the symptoms that are presented by the different cases. Moreover, it is an extremely important disease (and I think that the medical men have not given this point full weight), on account of its now well-recognized pathology; and I doubt if there is a gentleman in this room who would seriously claim that any one has demonstrated a plan or method for the *prevention* of appendicitis which in the least appeals to one's scientific sense or which has the least scientific foundation. All these reasons combined warrant the statement as to the importance of the disease.

The mortality of the disease, according to my convictions, based upon the examination of a good many statistics and upon a fairly extensive study of the subject, is, when *all* the cases are treated *medically*, at least 25 per cent.

What is the cause of this large mortality? Is it not the traumatism of the ruptured appendix? Is it not the fact that some interference takes place with the discharge of the secretions in the sense that the body needs these secretions? Is it not the fact that there is displacement or malposition of any of the viscera from inflammatory conditions? None of these things have anything to do with the mortality except as leading to another condition. The real cause thoroughly appreciated by those familiar with the disease is often overlooked, and we hear a great deal about "mild inflammation" of the appendix, and about "catarrhal inflammation," as though it were no more important than catarrhal conditions of the nasal and other mucous membranes. The real source of the mortality is sepsis—the disease is essentially a septic one, and from the very beginning of an attack of appendicitis the individual is attacked with sepsis. In a certain sense he is in a condition similar to that of a person who has received a wound on the end of his finger with a septic instrument. If the individual is especially susceptible to sepsis,—and there is an enormous difference in individuals in this respect—he is extremely liable to go on to the full development of general sepsis. If he is little liable to sepsis, and the local conditions permit of rapid subsidence of the inflammation, the attack is spoken of as a mild attack of catarrhal inflammation. If the wound is on the finger, the story is similar. Some individuals become enormously septic from a small wound, while in others the wound will rapidly clear itself, and the individual will escape from everything but the local signs of sepsis; but look at the difference between the two lesions. The one on the finger can be readily cleansed and the best surgical treatment can at once be applied, and who would think of treating a septic wound of the finger medically? I would ask the medical profession what remedy they possess in the whole pharmacopœia which has the least effect in controlling the course of a case of appendicitis? I know of none. I know of no demonstration that shows that any medical remedy has had any effect on a case of appendicitis. I am perfectly willing to admit that plenty of cases of appendicitis subside after being quite violent, and even alarming, under certain conditions, such as the application of cold or the administration of a cathartic

and the choice among cathartics is varied. One says castor oil, another prefers salines, and another calomel. And I have had different gentlemen in turn tell me that each one of these remedies was *the* remedy. I have never seen a case, or the history of a case, by which I was in the least convinced that medication had had any influence on the disease. This is a very important consideration. If I am wrong, I should like to be corrected. I have not seen any argument that would lead me to take any other view than the one I have expressed. The argument that persuades me that I am right, or nearly right, is this: I have had numerous cases that have come into the hospital, and which I have kept under careful observation, and on which I have not operated, for I do not operate on all cases. I prefer, where I think it is safe, to allow an attack of appendicitis to subside, and operate after the attack is over, in the period of quiescence. Having these cases under observation, and allowing the acute symptoms to subside, and doing absolutely nothing, except to enjoin rest in bed, I find that they do as well as the patients who have been given castor oil, salines, or calomel. I am satisfied that special medical remedies have absolutely no effect in controlling the disease.

I think that one might readily admit the truth of the statement that I have just made, if he were ready also to admit the etiology of the disease, which has already been referred to by Dr. Deaver. If, without taking too much time, I were to state what I believe to be the real cause, the originating cause of disease of the appendix, I should say that it was interference with its proper drainage. That is putting it too briefly. I look upon interference with the proper drainage of the appendix as regards its effects on the mucous membrane precisely as I look upon stricture of the urethra as affecting the mucous membrane of the urethra behind the stricture. We know that in the appendix, as well as in the intestines, large and small, we have a prodigious quantity of bacteria, particularly the bacterium coli commune. We know that health continues with these bacteria there. If the mucous membrane is healthy, no disturbance of the normal condition takes place. We know that a man may have a cystitis of a very virulent type, and have it for years, and if there has been no disease of the urethral mucous membrane primarily, he will pass septic urine without inducing any disturbance of health of the urethral mucous membrane. If that man has a moderate stricture, with the calibre of the urethra reduced from one to three sizes only of the French scale, immediately changes in the mucous membrane behind it commence. The fluids that formerly passed over it without harm become very septic, and the individual is liable to extension of the septic disease, and it is not uncommon to have a stricture in a few days diminish very rapidly in size, with ulcerative processes, and even gangrene, occurring. I fully believe that a somewhat similar process occurs in connection with the appendix. If there is any obstruction to the escape of the normally harmless contents of the appendix, and this interference may be

caused by a colon distended with gas or feces, by displacement of the viscera, by accumulation of fat in the mesentery, turning it to one side, by the entrance of a little soft feces into the mouth of the appendix, or by a hard concretion or, rarely, a true foreign body—anything, either from within or without, which interferes with the calibre and prevents normal drainage at once establishes conditions which are apparently all that are needed to encourage the bacteria of the appendix to multiply and to take on a septic power which they did not primarily have. That, it seems to me, is the explanation of all cases, and I think that numerous specimens that I have handled confirm this view. Where the appendix was not completely destroyed I have never failed to find at some point or other a definite interference with the calibre of the tube, and beyond this point the disease. In every case of disease of the appendix the important element is the septic process, and the extent of this is not clearly indicated by the symptoms in the early stages of the disease, so that it is extremely difficult for the most experienced to lay out a prognosis, and this is where we meet with the real trouble in deciding the question as to the method of treatment or the time of operation.

A great deal is said in opposition to surgical treatment, based on the fact that cases do spontaneously recover. This is constantly being referred to. You will see statements made by physicians, and even surgeons, that, according to their experience, all of these cases get well. How do these cases get well? I have seen cases recover without treatment, but in using that phrase I should like to define what I mean by "getting well." An individual may have a mild condition of septic infection, and the worst that it does is to cause swelling of the mucous membrane. This may subside and the sepsis disappear, and the individual lose all signs of disease and be apparently well. Some of these cases will remain perfectly well, because the effect on the mucous membrane has not been sufficiently grave to induce any important change in structure. A large number of cases which are spoken of as successful recoveries are cases which have gotten over a particular attack. They do not have any symptoms, and they feel well for months, perhaps. Then they have another attack. This occurs in almost all. It may not be for several years, even ten years. Some of these cases which for a long time have been looked upon as well have a second and fatal attack. I have known a number of such cases—quite large enough to establish the belief that cases that have had one attack are not in any way to be trusted. Again, in other cases that "get well" a tumor of considerable size forms, and the patient goes through a severe illness, a great deal of anxiety is felt as to the result, and the physician becomes quite alarmed. Suddenly the patient begins to feel better in the course of an hour or over night. It is then noted that the abscess has opened into the intestines, and often everyone interested congratulates himself that the patient has escaped the knife and that he has gotten well. That patient is not well. The condition left is that of an empty sac lined with granulation tissue emptying into the intestine. Almost the whole appendix may be left. After a time this

patient has another attack of pain, and another abscess forms and discharges in the same way, or it may rupture into the peritoneal cavity. I have seen this repeated over and over, so that I claim that this method of getting well is a very poor one.

Now, if we have no medical treatment that controls the disease—and I maintain that we have none—we are not going to allow these patients to present symptoms of serious illness without applying any remedy. Have we any remedy? Unquestionably; a beautiful remedy, one of the most perfect, clean-cut, and complete remedies which was ever applied to the treatment of disease. There is no remedy that compares with it, provided it is applied at the right time. The *right* time is before the pathological processes have done much harm. An appendix that is inflamed and contains a little pus has in the majority of cases not suffered much harm. There are, however, individuals who will be generally septic before the appendix shows anything but the beginning signs of disease. These individuals are those who become septic on very slight provocation. With these exceptions the appendix will stand a great deal, and up to twelve, twenty-four, or forty-eight hours the disease will be found confined to that organ. That is the time to operate. The reasons that I should especially urge in favor of this are these: The operation is very free from danger. This may seem a rather strong statement, but I assure you that it is true. I have never yet seen a patient die after an operation for acute appendicitis done at what I call the proper time. I do not mean by that to exclude all the cases that die. Where the appendix is not gangrenous, or where the pus has not extensively involved the pelvis, or travelled over to the other side or very far upward, the cases get well after operation. There is no difficulty in the operation at this stage in a first attack. The appendix is readily separated, there are no firm adhesions, the area of disease is small, the wound made is small and readily closed, and the healing of such wounds is extremely perfect. These are the reasons why I urge early operations. There is practically no mortality in the early operation except in the cases spoken of, where the patient will be septic from the very beginning.

What is the advantage of the early operation over the later operation? Where the patient escapes the early dangers of sepsis the disease may go on to the formation of an abscess, and this used to be looked on as a satisfactory termination. It used to be thought that if you could have a nice abscess presenting well toward the outer part of Poupart's ligament you were in a good position, because any one could open that and let out the pus. When a large abscess is formed, to be properly treated, it must be laid freely open. There is a large wound which must be treated widely open in order to obtain complete healing. Under the most careful treatment not a few of these cases continue to have a sinus running down among the intestines. Some continue for years, some never get well, in others there are extensions from the sinus,

and the patient finally dies. All this is avoided by the early operation. Moreover, the cases of late operation for large abscess are those which are apt to have subsequently large ventral hernia.

If I have not outspoken my time, I should like to say a word as to the reason why operation is often deferred until a late period. Why is it that we are so often called to operate on an abscess ten days, two weeks, or a month old? Why is it that we are so often called for the first time to see a patient who is said to have appendicitis, and when we see him find the patient in an advanced stage of septic peritonitis? What is the reason for this delay? The reason is unquestionably the perfectly unfounded belief in the value of certain remedies, including time and opium. The physician when called often does not recognize the character of the disease, and administers some preparation of opium, causing a delay of at least twenty-four hours. When the effect of this has worn off, the patient insists on another dose. This keeps the patient comfortable, and often causes a fatal delay in the application of the real remedy.

Another reason of delay, and one which the surgeon must combat, is the widespread belief that the disease is not such a very dangerous one, and that the physician can afford to wait three or four days, and that *he* will decide when the time for operation has come. There is no reason why the physician should decide in a case of appendicitis, or in any other surgical case, when the time for operation has come. The proper one to decide this is the man who has studied not only the ordinary external appearances, which the physician also studies, but who has also seen the lesions and compared the signs with the lesions. He is the one to decide when the time for operation has come in any given case.

Dr. H. A. Hare: I should like to ask a question in regard to the administration of a purgative in these cases. I should like to hear Dr. McBurney's opinion as to the advisability of administering them prior to operation. The old idea that the head of the colon contains hardened feces has been exploded. If this is the case, I cannot see that much is gained by the administration of a purgative which, theoretically, may sweep feces into the peritoneal cavity through an opening in the bowel. If the cases are surgical almost from the start, I think that unless the intestinal canal were loaded with feces it would be better to operate at once than to lose time by the administration of a purgative and take the risk of having fecal matter swept into the peritoneal cavity. I would ask if any of the surgeons have met with cases of perforation where the use of a purgative has apparently caused the escape of fecal matter into the peritoneal cavity?

There is another point that I did not understand clearly. From the general tenor of Dr. McBurney's remarks I infer that he believes that these cases should be operated on very early and without delay, but I also understand him to say that, as a rule, he prefers in a first attack to wait until the symptoms have moderated and the acute inflammation has passed away. If the

appendix is as septic as he believes, it seems to me that we should operate at once without delay. A delay of twenty-four hours may be fatal.

Dr. John Ashhurst, Jr.: I suppose that I occupy the position of one of those who have been somewhat pityingly referred to by Dr. McBurney as conservative surgeons somewhat advanced in years.

A good deal has been said as to the difficulty of diagnosis in cases of appendicitis. I do not profess to be more skilful than others, but I think that the diagnosis can usually be made by surgeons used to the employment of the sense of touch, and I believe that it may equally be made by physicians who have educated the same sense. I am not prepared to go as far as has been done by some writers in claiming that appendicitis is a disease which should necessarily be treated by a surgeon from the beginning, for I believe that in a considerable proportion of cases—indeed in a large majority, if judiciously treated from the beginning—the patient will get well without surgical interference. At the same time I would say that the physician who has not that delicacy of touch which will enable him to recognize the local condition, or to detect those changes which precede the formation of pus, should have associated with him a surgeon from an early period in the case.

Dr. McBurney has asked if there is any medicinal treatment which can effect a cure in these cases. I would remind him that when we speak of curing a patient we mean simply that we take care of him and that the patient gets well. I do not expect to convince Dr. McBurney that it is in the power of medicinal remedies to cure appendicitis; but the fact is undoubted that under the use of medicinal treatment, with the simple local applications which physicians are in the habit of making, many cases of appendicitis will get well and remain well for an indefinite period. Some remain well for the rest of their lives. Others have a second attack after a longer or shorter period. It is the custom with advanced surgeons at the present day to fix a limit for disease, and to say, for instance, when a cancer of the breast which has been removed comes back after three years, that it is not a recurrence, but a new cancer; I am surprised that the same surgeons will not acknowledge that appendicitis may be cured, and are unwilling that, if it return after a period of even ten years, it should be considered as a new case. The treatment which I have adopted in the early stage of appendicitis has not been the administration of purgatives or of occasional doses of morphine, and I have no doubt that Dr. McBurney is right when he says that it is better that the patient should be left in bed without any treatment whatever than that he should be given repeated doses of purgatives or only occasional doses of morphine to relieve pain. The plan which I have found successful is that recommended many years ago by the late Dr. Alonzo Clark in the treatment of peritonitis—that is the administration of opium systematically until the respiration is brought down to twelve in the minute. I combine the opium with belladonna, and under this plan I have seen in a considerable number of cases cures of appendicitis as of other forms of peritonitis. As to "masking

the symptoms," although the opium relieves the pain, yet I think that the skilful physician or surgeon can ascertain whether or not the patient is doing well from other signs, such as the temperature range, the local symptoms, the amount of movement of the abdominal walls, etc. In cases occurring in robust persons I add the use of leeches to this treatment. I believe that life has been saved by the application of leeches in the early stage of appendicitis as well as of other forms of peritonitis. When this mode of treatment does not succeed I think that operation is indicated.

As to operation after the patient is well, undoubtedly it is a much simpler procedure, and the prognosis is better than in acute cases. At the same time, I have never felt justified in resorting to the operation in the interval, except under special circumstances. I have operated in five such cases, and all the patients have recovered. I have operated also in a number of cases of acute appendicitis, and, while I have lost some patients, the majority have gotten well. I may say with Dr. McBurney that the fatal cases were septic from the beginning, and were cases in which death would have occurred under any circumstances. I have never regretted operating for appendicitis, and I can say most decidedly that I have never regretted declining to operate. I have seen cases, such as Dr. Deaver mentions, where pus was free in the peritoneal cavity, and in some of these I have succeeded in saving life by operating as a last resort.

I have seen some curious things in operating for appendicitis. On one occasion I saw what I at first thought was an unusually long appendix, but on drawing it out it proved to be a round worm, free in the abdominal cavity. The patient recovered.

My belief, then, is that a large majority of patients with appendicitis will get well without an operation, if judiciously treated. If an operation is required, I believe that still the majority will get well. The patients who do not get well are those in whom there is what may be called a septic diathesis, where the patient will become septic from slight causes. The majority of these will die, although a few may by operation be snatched, as has been said, "from the very jaws of death."

As regards the propriety of an operation for fear that the patient may have another attack, perhaps many years afterward, that is a suggestion of what I have called advanced surgery which I am hardly prepared to accept. It is somewhat analogous to the recommendation of removal of both testes in elderly men, from fear that at some subsequent period they might have enlargement of the prostate.

Dr. A. V. Meigs: Dr. Deaver has stated that the diagnosis is easy to make in appendicitis, and our guest from New York alluded to the many pathological lesions which occur as consequences of appendicitis; but he said nothing of the diseases of the peritoneal cavity in which appendicitis may occur as a secondary consequence. During the past summer I have had two abdominal operations done at the Pennsylvania Hospital. The first case was

that of a woman I watched a day or two, and then had our gynecologist see with me, to try to ascertain the nature of the disease. We were unable to decide whether the attack was one of appendicitis, or if the disease had begun in the tube or ovary. As the woman's condition became almost desperate, it was decided to operate.

The appendix was normal, and the only lesion found was a dermoid tumor of the *left* ovary—the side opposite to the apparent seat of disease previous to operation. This tumor was removed, and twenty-five hours later the woman died. At the post-mortem examination nearly two hours were consumed in ascertaining that the real cause of the trouble was an abscess underneath the liver, which had ulcerated through the gall-bladder, so that bile and pus were escaping into the peritoneal cavity. This condition was not even suspected at the time of operation, nor could it have been found, or, if found, relieved.

During the twelve or thirteen years that I have been physician to the Pennsylvania Hospital I have seen a great many post-mortem examinations, and I can remember only one case of perforated appendix. I do not believe the lesion is so common as some would lead us to believe.

Last summer I had a patient in the hospital with all the commonly-accepted signs of appendicitis—obstruction of the bowel, tympanites, pain, and tumor in the right iliac fossa. He went from the hospital apparently quite well. The treatment was a quarter of a grain of opium and one-twelfth of a grain of extract of belladonna every two hours for a few days, and then small and repeated doses of vegetable cathartics. Castor-oil, salines, and calomel merely induce watery movements and do not empty the bowel of feces.

Dr. McBurney has said that persons with appendicitis do not get well, but only improve temporarily, and then suffer with relapses. One's personal experience cannot, in the nature of things, be very large, but I can recall several persons who have had the disease and have been fifteen and even thirty years without any recurrence.

The last case to which I shall allude is the second one I had operated upon in the hospital this year. I should like, however, to take exception to the statement that physicians are not willing to have surgical opinions in obscure cases of abdominal disease; on the contrary, I believe they eagerly seek such help. My patient was a boy of eleven, who had been in the hospital four months previously, under Dr. Ashhurst's care, with an attack of general peritonitis, which came on from his having been kicked in the abdomen by another boy. He recovered, but returned to the hospital in September with symptoms of intestinal obstruction. A number of physicians and surgeons saw him, and there was doubt in regard to the diagnosis, and even difference of opinion as to the treatment. Some wanted salts administered, but this I was unwilling to agree to, and would not do so until at last I was overruled, as it was thought necessary that he should take salts before any operation was done. At the consultation to decide the question of

operation, I opposed it upon the ground that the diagnostic indications were too obscure, and that it was too late. In less than twenty-four hours the patient took four and a half ounces of epsom salts, almost entirely without purgative effect. At the operation, when the appendix was first seen, everyone agreed that it was not diseased and it was dropped back into the abdomen. Later, in the course of the manipulations of the surgeon, some pus welled out of the abdominal incision. The appendix was again drawn to the surface, said to be diseased, and removed. After forty-eight hours the patient died. At the post-mortem examination it was found that there were many adhesions of and around the caput coli and a small pus deposit behind it. Where any of the adhesions were torn loose it was found that at the point of adherence there was some fresh yellow lymph or pus. The appendix, when opened, appeared quite natural, and the only sign of disease about it was one of these small spots of yellow lymph or pus upon one side of its exterior surface, where it had been adherent. The real cause of the obstruction of the bowel was found to be an old adhesion of ileum. A portion of the ileum, about eighteen inches from the ileo-cæcal valve, was dragged from the left side of the abdominal cavity, where it naturally lay, and fastened by an old thick adhesive band in the right iliac fossa. So firm was the adhesion and so far had the knuckle of intestine been dragged from its natural position that the obstruction was practically complete so far as concerned the passage of solid material. This, a consequence of the attack of peritonitis four months previously, was the true and only cause of the final attack, and the adhesions and pus about the head of the colon and appendix were all secondary to it. It is absurd to suppose that a surgeon at an operation would, with two fingers in the abdominal cavity, have differentiated all this, when it took nearly two hours to come to an understanding of it at the post-mortem examination. The diagnosis in many cases of obstruction of the bowel is most difficult if not impossible. One point more: In this case the bowel above the point of obstruction contained almost no feces, while below the obstruction there was a great deal. If the salts given had operated, the surgeons would have thought the obstruction had yielded. This seems to be another argument against the much-vaunted modern treatment of obstruction of the bowel with salines.

Dr. William Osler: At the Johns Hopkins Hospital my orders are not to admit cases of appendicitis to my ward, but to give the surgeons the responsibility at the outset. Humility always has its reward, and in consequence I am now often called upon by surgeons to say whether or not operation shall be performed, and more than once in the last three years have I told a surgeon to stay his hand, as in all probability the attack was not appendicitis. One case proved to be hysteria, and another ovarian trouble. The chief difficulty lies in the early recognition of appendicitis. I should like to ask Dr. Deaver in particular, and surgeons in general, how many appendices are removed that are about as normal as the tubes and ovaries which we used

to see from the gynecologist. Believe me, there are appendices removed that are not in a septic condition. I have seen them. I admit that a man is better without the appendix than with it, and I do not quarrel with any surgeon for removing the appendix. I quarrel with them for scolding the physician for any delay. Physicians nowadays are wider awake in regard to this disease and more willing to hand the cases over to the surgeons at an early date than formerly.

I cannot agree with the statement that Nature never completely heals disease of the appendix. Some years ago I reported my cases of appendix lesion in eight hundred autopsies. There are several in which unquestionably the appendix was completely and entirely healed, being converted into a fibrous cord.

Dr. George E. Shoemaker: I would ask Dr. Deaver in closing the discussion to bring out one point more fully. He said that he made a routine practice of giving a purgative, and if the patient did not improve, he operated. I should like to know how many cases he has met in the period covered by his paper where he gave a purgative and operation was not needed. I should also like to know how many cases he found so ill that he declined operation.

Dr. John B. Roberts: Some observation and some experience have led me to the conclusion, I think, an irresistible conclusion, that at the present time the appendix is being removed more frequently than pathology demands or good surgery justifies.

Dr. S. Weir Mitchell: It is, perhaps, scarcely fair to criticise after-results of operations of necessity: nevertheless, it is clinically interesting to know that the removal of the appendix is occasionally followed by conditions of general discomfort, and occasionally by attacks of local pain, which show that the operation is not always without unpleasant consequences. Less stress has been put upon the use of ice than I expected. I doubt very much whether the chilling influence of ice ever extends as far inward as the part diseased; but here, as elsewhere, the use of ice is followed by reflex effects upon the bloodvessels far beneath the surface.

Dr. J. C. Wilson: It has been my good fortune to see many of the cases in the hands of Dr. Deaver, my surgical colleague at the German Hospital. As a medical man, it occurs to me that perhaps the diagnosis of appendicitis is not always so simple, the course of the affection so definite, nor its treatment so clear as would appear from the statements of the surgeons.

It has been my experience occasionally to meet with a disease presenting the early symptoms of appendicitis, but not followed by the near or remote grave consequences upon which so much stress has been laid in the discussion to-night, and after the lapse of an indefinite period, in some cases now measured by many years, not recurring.

The attacks occur oftenest in young adults, but also later in life. They follow an indigestion or exposure to cold. There are colicky pains, tender-

ness in the region corresponding to the appendix, a disposition to flex the thigh, mild fever in some instances, sometimes none at all. Under various forms of treatment, sometimes calomel, sometimes salines, sometimes even opium, recovery takes place in from thirty-six to forty-eight or seventy-two hours, a recovery which, as I have said, appears to be permanent. Does this condition fall properly under the head of appendicitis or is it a non-infective process of an essentially different character from that which has been described so admirably to-night? If so, what are the criteria by which a differential diagnosis can be made and how are we to recognize at once the cases in which the early operation is necessary to avert the most serious consequences, even to save life?

Dr. Deaver: As to the diagnosis, with few exceptions I have had no trouble in making it. Where we have a history of acute indigestion with abdominal pain, paroxysmal in character, soon localizing itself in the right iliac fossa, with tenderness at McBurney's point, in nine cases out of ten the case is one of appendicitis. It seems so simple that I am surprised to hear medical men speak of the difficulty.

The question has been asked how many normal appendices have been removed. I have not removed a single one. The great bulk of these cases had extensive adhesions, many contained pus in the appendix or its neighborhood, others had pus between the layers of the meso-appendix. A large number contained the bacillus coli communis, and a number the streptococcus.

Dr. Osler speaks of having seen cases where the appendix had entirely healed. These cases have been well described by Dr. Senn as obliterated appendices. I have seen this condition present with pus around the appendix.

The object in using a purgative is to clear out the intestinal canal, which probably contains irritating matter as a result of the indigestion. It should be given early. I have seen a purgative administered late followed by the escape of fecal matter through a perforated appendix. I have seen this accident follow the use of an enema in a case where opium had been given. I operated in that case against my will, and found the belly cavity filled with the injection. In all my cases the purgative is given to clear out the alimentary canal and not for a curative effect. In acute appendicitis the purgative is given for the removal of foreign matter; then, as the case progresses, it is evident that the trouble is not due to the presence of indigestible material.

My experience agrees with that of Dr. McBurney that where I have operated in acute appendicitis, at what I considered a favorable time, I have not lost a case. That is a strong argument in favor of early operation.

The question of the recognition of pus. It is unfortunate to allow a case to go that long. I was called to-day to see a case where the patient was expectorating fecal pus. That is one of the cases where the appendix occupied a position behind the colon, between the layers of the meso-colon, and abscess formed and was not evacuated,

The case to which Dr. Meigs referred, where there was pus in the neighborhood of the appendix, I believe, in all probability, was a case of appendicitis, and that the diffused peritonitis and formation of adhesion were the cause of the kink in the bowel. I have seen, in a number of instances, secondary abscess of the liver as a result of appendicitis. I have also seen abscess of the mesentery.

I do not operate on all cases of acute appendicitis I see. Many of these cases of simple appendicitis are amenable to treatment.

Dr. McBurney: I think that Dr. Ashhurst rather misunderstood my position in regard to the class of cases on which I would advocate operation. I do not believe in operating on every case at once, nor do I believe that there is any special danger in a certain amount of delay in a considerable proportion of cases. I think that many cases will allow of deliberate study before any decision is reached. I do not operate immediately on any patient whom I do not consider *likely* to become very ill. Surgery has reached such a point that it is better to operate before extreme illness than after this condition has appeared. If the patient is not very ill, and can be seen every few hours, I am willing to postpone the consideration of operation. Many of these cases improve, and then the question of future course arises. I tell them that the probability is that another attack will occur, and advise them to reside near good surgical assistance in case further trouble should occur. If a second attack occurs in a short time, the question is probably settled, and the appendix should be taken out. Where the patient is about to change his residence to a place where he could not be promptly seen by a surgeon, I have advised the operation in many cases, and have never regretted it. In some cases, where such advice has been neglected or not sought for, another attack has occurred with a fatal result.

With regard to cathartics, I have mentioned that I never use them. The reason is that in not a single case on which I have operated have I found feces in the caput coli. If there are no feces in the neighborhood of the appendix, I do not care to use cathartics. I seldom give opium, because I do not wish to mask symptoms, and I do not believe that it does any good. One great objection to the early administration of opium is that it leads to delay in making a careful examination and diagnosis. After the diagnosis is made I see no objection to giving a moderate dose of morphine to obtain partial relief when pain is really severe.

DELPHI'S ORACLE

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SENATOR POWELL'S SUDDEN DEATH.

Last month William H Powell, age 33 years, attorney-at-law, who was proposed by our Past Regent, Hartman, was initiated a member of Delphi Senate, and in less than one week he died of pneumonia. Prior to December 1st, 1894, he did not carry one cent of insurance, but about that time he was examined by the medical examiner of the New York Mutual Life Insurance Company, who pronounced him a safe risk, and he was granted a policy of $2,500 insurance. The doctor told him he was extremely sound, and Mr. Powell felt he hardly needed insurance. His friends in Delphi Senate, however, coaxed him to join the order and Senator Hartman got his application signed and he was initiated on Wednesday evening, January 9th, 1895.

On the night of his initiation his next door neighbor, who was a member of Delphi, called for him to go in to the meeting and be initiated, but he wanted to wait until next month, for no reason, apparently, except that he did not feel like taking the trouble to go in town, and as he said : "The risk of delay would not be great."

He went, however, was initiated, and now his wife and child will receive the protection that our order gives

Could any argument be stronger than the above why any man who has not made some protection for his family should delay in joining an order such as the Order of Sparta?

PERTINENT INSURANCE POINTERS.

A life policy takes from a man's mind the fear of something beyond his control—the only thing a brave man fears. It rests a man every time he thinks of his insurance.

Many an ill man has driven death away by remembering his policy. Without it, his concern about the future of his wife and children, coupled with the disease would have been too much for him.

Join Delphi Senate, No. 5, Order of Sparta.

"I never appreciated the value of life assurance before!" Thus wrote a widow whose husband left assurance on his life.

The same remark might be made by the widow of any man who has died unassured. But what a difference in the point of view.

Join Delphi Senate, No. 5, Order of Sparta.

When a man dies, can he leave his brains or muscle or salary to his family?

No; but by life assurance he can leave a fund which will continue to them an income sufficient to support them as long as they live.

Join Delphi Senate, No. 5, Order of Sparta.

The Senate.

THE MEMBERSHIP CLUB BANQUET.

The committee having in charge the arrangements for the annual banquet of Delphi Senate's Membership Club report that they decided upon the date of Saturday evening, February 23d, and have secured "The Lorraine" at Broad and Fairmount avenue as the place. This is an admirable selection, as "The Lorraine" is a new house and is a magnificent place.

The club has a membership of 112 Senators, all of whom are requested to appear in full dress. In order that the disadvantages of last year may not happen again members are requested to pay their dues before February 13th (meeting night) as no member will be admitted after that date.

PAST REGENT LATTA.

With great regret, upon the part of our Senators, Regent Horace B. Latta, on St Paul's day, January 25th, became Past Regent Latta, of Delphi Senate, and King F. B Stockley became the Regent of our Senate.

Just before adjournment at the January session Past Regent J. H Paist, in a short address, presented Regent Latta, on behalf of the Senate, with a handsome P. R. jewel, and justly praised his administration as regent of Delphi Senate. As a fitting close of Regent Latta's term of office seven candidates were initiated at this session, and two were left over until the February session.

CAPTAIN OF GUARD ELECTION.

The election last month for Captain of the Guard of our Senate resulted in the election of Senator George S Cullen. Senator Jno D Nagle, the other candidate, in a neat speech moved that the election be made unanimous, and stated that though not elected he sincerely thanked his friends for their endeavors, and that his loyalty to the Senate and his attendance would be the same as though elected.

Senator Nagle has always been a regular, seldom misses a session, has put in many members, served on the board of Stewards acceptably and has been a member of the Auditing Committee for a long time, and is a "worker," who is an honor to the Senate.

HOW ABOUT 1895?

The ORACLE has very often called our Senator's attention to the fact that it was to each Senator's interest to increase the membership of the order, by bringing in new members. The larger the membership, the less the individual cost of insurance to each Senator. The past year has been a hard one on all organizations for mutual insurance, and an increase of assessments was made in nearly every order.

We have just celebrated our Fifteenth Anniversary, and have a permanent fund of over $105,000.00, which is steadily increasing. Three new Senates were instituted last year, and the increase of membership was very satisfactory. The prospects for 1895 are bright, as new Senates are being formed, and more interest is being awakened in the members of the order.

Delphi Senate must do her share in the work of increasing the membership of the order. Last year only fifty candidates were initiated in our Senate, and some of the small Senates compared with their membership, did nearly twice as well. What is Delphi Senate going to do in 1895? Shall we not all get together, and resolve that each member of Delphi Senate will bring in at least one candidate this year, and then see that the resolution is carried out. What an increase that would be to Delphi Senate, and how easy it could be done. Will you do your share?

Programme.

Wednesday Evening, February 13, 1895.

During Initiation.

Music, ... Delphi Octette

Initiation.

Entertainment.

Music, ... Delphi Octette

Tenor Solo, ... Senator Urban

Humorous, ... Senator Poole

Music, ... Delphi Octette

Bass Solo, ... Senator Herkness

Banquet at Girard Assembly Rooms,

(Girard Ave. and Hutchinson St.)

SPECIAL NOTICE.

Our Financial Secretary, Senator Chas. C. Matthews, desires to inform the Senators through The Oracle that they can pay their assessments at his residence, 1302 Franklin street, between 6 and 7.30 P M. any evening, except Sundays and holidays It is bad policy to wait until the last day to pay your assessments. Make your payment as much before the twenty-fifth of the month as you possibly can.

We are glad to state that Senator A. A. Thumbert is convalescing, after being confined to his bed for seventeen weeks with paralysis. He has been attended by Senator Dr. Walker, and it is hoped he will be able to attend our sessions soon.

After reading the Oracle, hand it over to some friend whom you have asked to join our order.

Senator George S. Graham made a very entertaining address at the Anniversary Entertainment of No. 1 Senate at Association Hall, last month. In speaking of Senator Powell's death he said: "The order had entered into a contract which it is glad to pay." It is not charity, "It is a business contract".

Information.

ORDER OF SPARTA.

This body, organized in 1880, in the City of Philadelphia, has for its object a mutual benefit. It provides that $2500 shall be paid to the widow (or beneficiary) of a deceased member—which is paid by the assessment plan.

A Feature Unknown to Other Organizations.—The establishment of a Permanent Fund by the payment of ten cents additional on each assessment. This fund now amounts to over **$100,000** and is steadily increasing. It is to be used in paying the assessments of members who have been in good standing for twenty-five years, though it is thought this time will be considerably lessened, the Fund having accumulated more rapidly than expected and, therefore, "this feature" will become a reality in less time.

The cost to each member has been as follows:

Year.	No. of Assessmt's.	Paid for Death Losses.	Reserve Fund.	Senate Dues.	Total.	Paid to Beneficiaries.
1880	...		.....	$4 00	$ 4 00	.....
1881	5	$ 5 00	$ 50	4 00	9 50	$ 4,727 00
1882	11	11 00	1 10	4 00	16 10	15,299 00
1883	19	19 00	1 90	4 00	24 90	36,849 00
1884	15	15 00	1 50	4 00	20 50	30,121 00
1885	19	19 00	1 90	4 00	24 90	41,841 00
1886	14	14 00	1 40	4 00	19 40	41,057 00
1887	21	21 00	2 10	4 00	27 10	52,500 00
1888	23	23 00	2 30	4 00	29 30	77,500 00
1889	20	20 00	2 00	4 00	26 00	67,500 00
1890	23	23 00	2 30	4 00	29 30	82,500 00
1891	26	26 00	2 60	4 00	32 60	102,500 00
1892	27	27 00	2 70	4 00	33 70	107,500 00
1893	24	24 00	2 40	4 00	30 40	100,000 00
1894	30	30 00	3 00	4 00	37 00	125,000 00
	277	$277 00	$27 70	$60 00	$364 70	$884,894 00

Cost of $2500 insurance for 15 years **$364.70**, or $24.31 per year, making cost *per thousand* insurance **$9.72** per year, *including an interest* in the Reserve Fund, which is an investment for the future, as from this Reserve Fund we get our paid-up certificate.

Compare **$9.72** per thousand with the following table:

We give you Protection at Actual Cost.	Age.	Old Line Rates per 1000.	Age.	Old Line Rates per 1000.	**Sparta is the Cheapest, as well as the Best.**
	25	$19 80	45	$39 97	
	30	22 70	50	47 18	
	35	26 38	55	59 91	
	40	31 30			

Sparta has paid to the widows of our deceased Senators, during the last 15 years, nearly $900,000 - all in the City of Philadelphia.

Delphi Senate, No. 5, was instituted May 13, 1880, and has about **700 Members.** The cost of joining is as follows:

Medical examination (to be paid the doctor when examined)	$3 00
To be paid on the night of initiation:	
Certificate	1 00
Advance Assessment	1 10
Relief Fund	1 00
General Fund	1 50
Total	$7 60

The Relief Fund is open to all who cannot pay their assessments, but application MUST be made for relief to the EPHORI Trustees). This becomes a loan, *without interest.*

Delphi meets **Second Wednesday of Every Month** at Hall, **Girard Avenue and Hutchinson Street,** and its **Entertainments** are a **feature.**

Send all applications to our Medical Examiner, Dr. H. C. PAIST, 536 N. Seventh Street. Office Hours—Before 8 A.M., 2 to 3 P.M., and 7 P.M.